Underwater Housing for Olympus E-PL2

User Manual

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1.Introduction

Made of sturdy 6061 aluminum, 10Bar housing for the Olympus E-PL2 is the ideal choice for those who favor small cameras. Our housing is equipped with control buttons for all camera functions, bulkhead connector for external flash and interchangeable ports for conversion lenses. The clear acrylic back cover allows checking on the camera much easier. For closure, the double O-ring and key-hole lock design provide ease of use and added security. Now you enjoy the use of a full function professional DSLR type housing built for a small camera.

2. Specifications

Test Pressure	Housings Individually Tested to 10 Bar (90 m / 300 ft.) Recommended Working Pressure : 60 m
Closure Design	Double O-ring, Key-Hole Lock
Body Material	6061 Aluminum, Acrylic
Overall Size	185 x 171 x 146mm (L x W x H) with Zoom Port. 116 x 171 x 146mm (L x W x H) with 20mm Port.
Total Weight	Approximately 1.5kg (Housing with Zoom Port) Approximately 1.1kg (Housing with 20mm Port)
Buoyancy (with Camera)	Slightly Negative in Salt Water
Accessories	Spare Main O-rings (Included) Silicone O-ring Grease (Included) Carrying Bag (Included) Red / Magenta Filter (Optional) Port for 14mm or 20mm (Optional) Port for 7-14mm, 9-18mm, 14-42mm, 14-42mm II, 14-45mm. (Optional) 45mm Macro Conversion Lens (Optional) 8mm Wide Angle Conversion Lens (Optional)

3. Function Controls

Function Control Buttons

(1) Flash Off
(2) Bulkhead
(3) Mode Dial
(4) Power On / Off
(5) Shutter
(6) Key-Hole Lock
(7) Flash On
(8) Movie
(9) Close-up Playback
(10) Info
(11) Index / Calendar Display
(12) Exposure Compensation
(13) Single-Frame Playback
(14) AF Target
(15) OK
(16) Erase
(17) Menu
(18) Sequential Shooting / Self-Timer
(19) Flash / Control Dial
(20) Housing Lid
(21) Zoom Control
(22) Zoom Control
(23) Focus Control
(24) Lens Release

Control Buttons Details

1. **Flash Off**
   - Press the lever down to turn off the flash.
   - Make sure that the Flash is turned **off** before removing the camera from the housing.
2. **Bulkhead**
   - For connecting the sync cord.
   - Unscrew the rubber protective plug and install the sync cord.
   - Always keep the rubber protective plug in place if sync cord is not installed.
3. **Mode Dial**
   Turn to select the shooting mode.
4. **Power On / Off**
   Press to power on and off.
5. **Shutter**
   Press down to activate the shutter.
6. **Key Hole Lock**
   Press down and turn to lock and unlock the lid.
7. **Flash On**
   - Turn button counter clockwise to turn on the flash.
   - Make sure that the Flash is turned **off** with **Flash Off** Lever (1) before taking the camera out from the housing.
8. **Movie**
   Press to start or stop recording video.
9. **Close-up Playback**
   Press to zoom in on frame.
10. **Info**
    Press to activate the Info button.
11. **Index / Calendar Display**
    Press to activate Index / Calendar Display.
12. **Exposure Compensation**
    Press to activate exposure compensation.
13. **Single-Frame Playback**
    Press to display most recent photograph or video.
14. **AF Target**
    Press to activate the AF Target button.
15. **OK**
    Press to activate the OK button.
16. **Delete**
    Press to delete an image.
17. **Menu**
    Press to display the menus.
18. **Sequential Shooting / Self-Timer**
    Press to activate.
19. **Flash / Control Dial**
    - Press to display flash options.
    - Press and turn to rotate the Control Dial.
20. **Housing Lid**
    Clear acrylic back cover of the housing.

21. Zoom Control

Press and turn to adjust the zoom.

22. Zoom Control

Press and turn to adjust the zoom.

23. Focus Control

Press and turn to adjust the focus.

24. Lens Release

For use with **LUMIX DMW-MA1** four third lens mount adaptor

For details of camera functions and settings accessed by each control button, please consult the Olympus E-PL2 camera instruction manual.

4.Set-up Instructions

Special Note on Responsibility for Watertight Integrity

Each housing is individually inspected and hydrostatically tested in the factory. However, the responsibility for ensuring the integrity of the watertight seal lies entirely with the user. 10Bar accepts no liability for damage to, or loss of any equipment used with, or placed inside the housing. It is highly recommended that an in-water test of the housing without the camera be carried out before the first dive, after changing ports or alteration of housing configuration. This simple test can be done by lowering the housing with ballast to the expected diving depth and then retrieved to check for leaks.

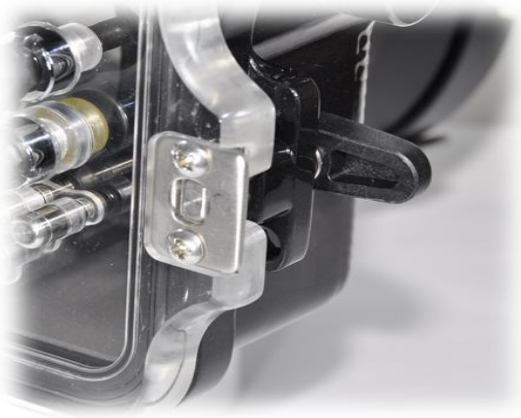
Key-hole Lock

- The clear acrylic lid is secured to the housing by two key-hole locks.
- Key-hole locks are simple, yet extremely secure mechanisms for locking down the housing lid.

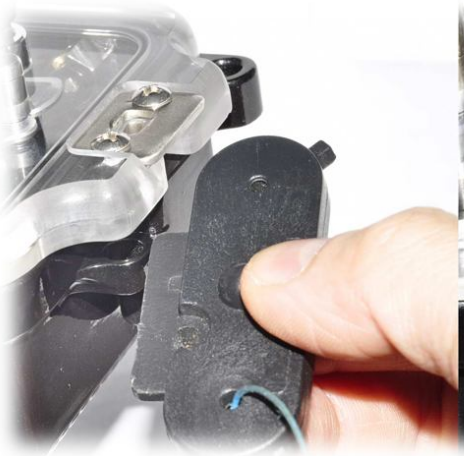
Opening the Lid

Make sure the flash on the camera is turned **off** before opening the lid.

Turn the levers of the locks perpendicular to the wall of the housing until the lock is released on both sides.



Pull out the lid by holding on the grip near the lock



Use the universal key to insert in between the lid and body near the key-hole lock to push off the lid if necessary

Mounting the Gear Rings on the Lens

In order to adjust the zoom and focus controls on the lens inside the housing, gear rings have to be installed on the lens before mounting onto the camera.

Olympus M. ZUIKO 14-42 f/3.5-5/6 II Lens

- Slide the Zoom and Focus Gear Rings onto the lens from the direction as shown by the red arrows below.
- Use **Zoom Control Button -22 and Focus Control Button – 23** on the housing to adjust zoom and focus for this lens

Olympus M. ZUIKO 14-42 f/3.5-5/6 Lens

- Slide the Zoom and Focus Gear Rings onto the lens from the direction as shown by the red arrows below.
- Use **Zoom Control Button - 22** and **Focus Control Button - 23** on the housing to adjust zoom and focus for this lens

Panasonic LUMIX G VARIO 7-14 f/4.0 ASPH Lens.

- Slide the Zoom and Focus Gear Rings onto the lens from the direction as shown by the red arrows below.
- Use **Zoom Control Button - 22** and **Focus Control Button - 21** on the housing to adjust zoom and focus for this lens

Panasonic LUMIX G VARIO 14-45 f/3.5-5.6 ASPH MEGA O.I.S.Lens

- Slide the Zoom and Focus Gear Rings onto the lens from the direction as shown by the red arrows below.
- Use **Zoom Control Button - 23** and **Focus Control Button - 21** on the housing to adjust zoom and focus for this lens

Olympus M. ZUIKO Digital ED 9-18mm f/4.0-5.6 Lens

- Slide the Zoom and Focus Gear Rings onto the lens from the direction as shown by the red arrows below.
- Use **Zoom Control Button - 22** and **Focus Control Button - 23** on the housing to adjust zoom and focus for this lens

Dome Port for 8mm Wide Angle Conversion Lens

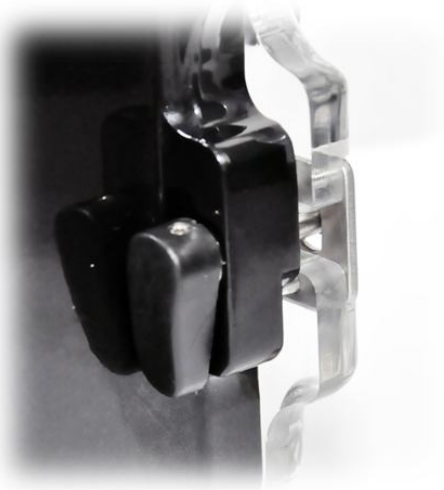
Mounting the Camera in the Housing

Slide the hot shoe plug into the hot shoe as shown below

Store the hot shoe plug cable as illustrated below.

Replacing the Lid

- Replace the lid and make sure the lever is perpendicular to the side wall of the housing.
- Lock the lid by pressing down the lever and turn until the lever is parallel to the side wall of the housing.
- After locking the lid, make a final visual inspection of the main O-ring for contamination.



Note: If the O-ring has formed a good seal, a continuous thin black line, about 0.5 to 1mm in width should be visible where the O-ring is in contact with the lid. Follow this line all the way round the lid as a final check that the seal is good.

Maintaining the O-rings

The O-ring is the main seal in keeping sea water out of the housing. It is an effective barrier only if the O-ring is properly maintained. The O-ring should be inspected before every dive. The following information is provided for your guidance in using and maintaining the O-ring.

- There are two O-rings, one on the lid and one on the housing, which require regular maintenance.
- Remove the O-rings periodically for inspection.
- It is not necessary to remove, clean and re-install the O-rings after every dive provided the O-rings are not contaminated.
- If the housing is to be opened between dives for changing memory card or re-charging battery, make sure the outside of the housing is thoroughly towel dried before opening.
- After servicing the camera, replace the lid right away.
- Before replacing the lid, check the O-rings and O-ring recesses, making sure that no contaminants such as dust, hair, salt, sand etc., has fallen onto them.
- The O-rings should be inspected every time the lid is opened and maintenance carried out only if necessary.

Inspection, Cleaning and Re-installation of the O-rings

Tools

- Soft cotton buds that are free of chemicals or contaminants such as loose fibers.
- Silicone grease supplied with the housing or other types of silicone grease specifically for underwater camera equipment can also be used.

Procedure

The following procedure should be carried out on a clean, firm, level surface (e.g., on a table) to prevent slipping especially when diving from a boat.

- The O-ring can be extracted using the O-ring extractor tool that came with the housing, or push with the flats of both thumbs or index fingers to gently stretch the O-ring on two adjacent sides thus making a small loop protruding around the corner. The loop can then be grasped and the O-ring pulled over the lip.

- Clean the O-ring recess (the square groove where the O-ring sits) with a cotton bud.
- Inspect the surface of the O-ring for contaminants and damages such as cuts or tears. This should be done visually and by running the O-ring between thumb and index finger, sensing any textural abnormalities on the surface.

- **If the O-ring is damaged or suspected of being damaged, discard it immediately**.
- Spare O-rings are supplied with your housing, or replacement O-rings can be ordered from 10Bar.
- If the O-ring is contaminated, clean it with a clean cloth.
- Re-inspect the O-ring after cleaning.
- Once the O-ring has been inspected and verified good for use, apply and distribute evenly a **SMALL** amount of silicone grease to the surface of the O-ring.
- Replace the O-ring into the groove.
- Run a finger over the O-ring to make sure it is seated properly.

5.Use & Care of Housing

Pre Dive Function Check

- Check O-ring is in the groove on the housing and the clear acrylic lid.
- Check housing is closed properly.
- Check battery and memory card status on the LCD display.
- Check control knobs and zoom function.
- Check if sync port is properly connected or rubber protective cap is securely in place.

General Operations

- The control levers and push buttons consist of internal double O-ring seals on a stainless steel shaft. This arrangement is very reliable. As a precaution, avoid excessively rapid movements when operating the controls, causing possible deformation of the O-rings.
- Also please allow for the fact that the camera takes a second or two to power up.
- If the camera does not appear to respond to a control action, make sure that no other controls on the housing are pressed, thus locking out other actions.
- Wear the wrist strap; it is easy to inadvertently let go of the housing if you are distracted.
- The body & lid of the housing are made of 6061 aluminum and acrylic respectively. 6061 aluminum is selected for its outstanding corrosion resistance, strength, and toughness, while acrylic for its excellent transparency and having a high gloss surface. Although acrylic and 6061 aluminum have good resistance to weathering, long-term exposure to sunlight should be avoided.

Avoid submerging the housing in hot water for a prolonged period of time or in a cleansing tank which is directly under a hot sun where the water may get heated.

Cleaning & Storage

- It is good practice to rinse off your housing with fresh water after every dive.
- Avoid exposure to fine sand.
- After a series of 10 or more dives, e.g., after a dive holiday, the housing should be immersed in warm water for 2-3 hours to dissolve any salt deposits that may have built up.
- No chemical cleaners should ever be used.

Important!!! **For long term storage please remove the O-rings from the housing body and lid.**

Transportation

All external attachments should be removed and the housing wrapped in foam or bubble wrap for transportation.

Accidents

The impact resistance of our aluminum housing is excellent. In the event that your housing encountered an impact force (e.g., being dropped), the alignment of the housing may have been altered. It is essential that you stop diving with the housing and send it to 10Bar immediately for servicing. Put a note inside the housing stating the nature of the accident to assist our technicians in assessing the damage.

6.Service

To ensure the continued performance of your housing, it should be sent in to us for servicing annually, or after every 200 dives, whichever is earlier. A full service will include:

- Inspect all components for wear or damage and report if repair is necessary.
- Clean all sealing surfaces.
- Replace all O-rings.
- Hydrostatic pressure test to 10 Bar.

Note: Replacement of damaged components may require additional cost.

7.Warranty

The warranty is valid for two years from the date of purchase. The warranty applies only to the housing itself. 10Bar does not accept any liability either implicit or otherwise for any equipment housed inside, or used together with the housing. In the event of the housing flooded within the warranty period, 10Bar will repair or replace the housing. Disassembly of the housing will invalidate the warranty. To register a warranty, please complete the form below and return a copy by fax, email or mail to:

10Bar Underwater Housings
Unit D, 5/F., Wing Hin Factory Building
31-33 Ng Fong St., San Po Kong
Hong Kong.

Tel.: (852) 2573 3228
Fax.: (852) 2811 9180
Email: service@10bar.com
Website: http://www.10bar.com

(Copy to be retained by user)

Housing Type :	**Date of Purchase :**
Serial Number : (Labeled inside housing)	**Dealer :**
Owner's Name :	**e-mail :**
Owner's Address :	**Tel :** **Fax :**

Please keep this manual for future reference

(Note: due to continuous improvements on our products, the latest model of the housing may differ slightly from those described in this document).

(Copy to be returned to 10 Bar Underwater Housings)

Housing Type :	**Date of Purchase :**
Serial Number : (Labelled inside housing)	**Dealer :**
Owner's Name :	**e-mail :**
Owner's Address :	**Tel :** **Fax :**